

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

COMMWORKS SOLUTIONS, LLC,

Plaintiff,

v.

COMCAST CABLE COMMUNICATIONS,
LLC AND COMCAST CABLE
COMMUNICATIONS MANAGEMENT,
LLC,

Defendants.

Civil Action No.: 6:21-cv-00366-ADA

Jury Trial Demanded

**PLAINTIFF COMMWORKS SOLUTIONS, LLC'S RESPONSIVE BRIEF
ON CLAM CONSTRUCTION**

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I. COMCAST'S EXPERT CONTRADICTS HIS OWN PRIOR STATEMENTS

Comcast's expert, Dr. Jeffay, contradicts his prior out-of-court statements, including from patents he co-invented and academic technical papers he personally approved. The following examples highlight the inconsistent positions taken by Dr. Jeffay in this case and outside this litigation, making his opinions here highly suspect:

- Dr. Jeffay personally approved a technical paper that used the phrase “to load balance the link use and helps avoid bottleneck links” presumably understanding the meaning of that phrase. *See* Ex. 5, technical paper by Benjamin D. Newton, title page, p. 44. Now he opines that an essentially identical phrase—“balancing data traffic throughout the network”—is indefinite. Op. Br., Jeffay Decl. ¶ 25. *See* Section II.B.5 below; and
- Dr. Jeffay personally approved a technical paper that used the phrase “shortest possible path.” *See* Ex. 5, technical paper by Benjamin D. Newton, title page, p. 89. But now, in this litigation, he states that this very phrase is indefinite. Op. Br., Jeffay Decl. ¶ 32. *See* Section II.B.6 below.

These and other examples are addressed in the brief. Given Dr. Jeffay's contradictory positions, the Court should afford appropriate weight to his expressed opinions, if any.

II. DISPUTED CLAIM TERMS¹

- A. **“Provisioning” / “Provisioned” Terms That Are Recited In Multiple Patents-In-Suit And Appear In Other Claim Terms Requiring Construction ('249 pat., claims 11, 15, 19, 31, 38, 48, 49; '285 pat., claims 1, 22, 43; and '664 pat., claims 1, 2, 4, 7, 8, 9, 12)**

¹ The Court granted leave for the parties to file opening and responsive claim construction briefs up to 45 pages addressing a total of 32 claim terms.

CommWorks' Construction	Comcast's Construction
<p><i>noun:</i> “connectivity”</p> <p><i>verb:</i> “establishing connectivity [for]/[with]”</p> <p>“provisioned” means “supplied with connectivity”</p>	<p>[’249 pat.:] This term should be construed in the context of each claim, as Comcast has proposed below for terms 5, 11, and 12. To the extent the term is construed in isolation, it should be construed to mean “establishing a new circuit or path” when used as a verb and “configuration, operation, characteristics, or properties of communication resources in the network” when used as a noun.</p> <p>[’285 pat.:] establishing an authorized communication link</p> <p>[’664 pat.:] These words should be construed in the context of the claim phrase in which they each appear. To the extent these words are construed in isolation, “provisioning” when used as a verb should be construed as “identifying and establishing a path”; “provisioning” when used as an adjective should be construed as “for identifying and establishing a path”; and “provisioned” should be construed as “traffic was successfully routed to the appropriate destination.”</p>

The **“provisioning” / “provisioned”** terms appear in three asserted patents. All three patents cover computer networking equipment and the “provisioning” terms all have the same meaning. In addition, a common construction would help the jury and avoid confusion.

In the asserted patents, all of which are directed to computer networking, the noun “provisioning” means “connectivity;” “provisioning” as a verb means “establishing connectivity [for]/[with];” and “provisioned” means “supplied with connectivity.” Not only do these constructions reflect the plain-and-ordinary meaning of these terms and are supported by the specification, but they would be helpful to a jury, which would be able to apply the same construction across different patents-in-suit.

The ’664 patent is entitled “Determining and Provisioning Paths in a Network” and states that “[f]or example, a path from port 407A, associated with node 402, to port 407B, associated with node 403, is provisioned on DCS [digital cross-connect] 407 in order to provide connectivity between the networks represented by nodes 402 and 403.” ’664 pat., col. 6:3-7

(emphasis added). Further, the '664 patent explains that provisioning a path involves establishing a “communications connection”—i.e., connectivity—across this path:

The network configuration management system 102 functions to determine a preferred path between two points in a network (i.e. between two network elements) and for provisioning a communications connection across this path by communicating with the managed network 110.

'664 pat., col. 1:39-43 (emphasis added).

The '249 patent expressly addresses connectivity when discussing provisioning. “For example, the physical layer 128 (layer 1) may represent the *provision* of circuits that effects an end-to-end connection between the first and second users . . .” '249 pat., col. 5:51-53 (emphasis added). “[T]he network controller 304 may change the network *provisioning* by balancing the transmission load . . . For example, . . . the network controller 304 may adjust the load on the first and second STM-1 lines 540, 544, such that the connection between the first and second users 504, 516 is allotted additional bandwidth.” *Id.*, 13:66-14:7 (emphasis added).

Comcast’s attempt to improperly limit “provisioning” as a verb to “establishing a new circuit or path” is contradicted by the intrinsic evidence. *See id.*, col. 14:57-66 (“Although [changing the network provisioning] *may* be accomplished by provisioning an additional circuit or path, as shown in FIGS. 5B and 5C, a change in the network *provisioning* *may occur without the addition of any new communication circuits or paths*. For example, the network controller may respond to a quality of service event by changing the path of an MPLS tunnel or by changing the priority on a queue in an IP router.” (emphasis added)).

The '285 patent likewise equates “provisioning” to connectivity. *See '285 pat.*, col. 1:14-17 (“The invention relates to the field of wireless connections between a wireless device and a network. More particularly, the invention relates to access *provisioning* between one or more wireless devices and an intranet access point.” (emphasis added)); *see also id.*, col. 1:24-29 (“...

provisioning the device with key material, such as for creating an encrypted *connection.*” (emphasis added)).

The Court should reject Comcast’s proposed construction for several reasons. First, Comcast’s proposed construction is not supported by the specification. In the context of the ’664 Patent, Comcast construes “provisioning” in terms of “identifying and establishing a path,” but the specification makes clear this identification/determination step is done before “provisioning.” *See* ’664 pat., col. 2:22-29 (“... Network Configuration Management System 102, NMS 126 and EMS 128 will collectively determine an appropriate network path across and between network elements 114, 116 and then provision virtual trunks and circuits across network 112.”) (emphasis added); *id.*, col. 4:35-40 (“Accordingly, once the service activation system determines a routing path, it invokes the appropriate adapter(s) or adapter module(s) to communicate the required configuration settings to the management systems/elements 126, 128, and 116 to provision the determined path.”). This disclosure indicates that “provisioning” is a separate operation from “identifying . . .” Additionally, Comcast’s proposed construction of “provisioned” for the ’664 patent requires traffic to have been “routed.” But there is no support in the specification that would equate a path to be “provisioned,” with the traffic having been “successfully routed.”

Second, importing Comcast’s proposed construction into the claims renders the claim language nonsensical. *See, e.g.*, ’664 pat., claim 4 (“A routing manager for [‘identifying and establishing a path’] paths for network traffic ... a cross-connection using said digital cross connect was successfully [‘traffic was successfully routed to the appropriate destination’].”); *id.*, claim 1 (“A network [‘for identifying and establishing a path’] system ...”).

B. Terms of U.S. Patent No. 6,832,249 (“249” patent)

The ’249 patent is entitled “Globally Accessible Computer Network-Based Broadband Communication System With User-Controllable Quality Of Information Delivery And Flow

Priority.” The ’249 patent discloses changing of broadband network provisioning at one layer of the Open Systems Interconnection (“OSI”) model in response to a quality of service event at another layer. *See Abstract and Fig. 2.*

1. “Open System Interconnection (OSI) reference model layers” (’249 pat., claims 11, 31, 38, 48)

CommWorks’ Construction	Comcast’s Construction
no construction required / plain and ordinary meaning	“layers in a conceptual framework describing different functions in a network system with seven layers, numbered 1 to 7, that respectively correspond to physical, data link, network, transport, session, presentation, and application layers”

CommWorks submits that no construction is required for this term. Arguing that “[m]any jurors are unlikely to be familiar with the OSI model” (Op. Br. at 4), Comcast proposes to construe this phrase using terms like “data link,” “transport,” “session,” and “presentation,” with which the jury will be as unfamiliar. Whether construed or not, both parties agree that expert testimony will be required to explain the underlying concepts to the jury, which is appropriate. *See Yeti Coolers, LLC v. RTIC Coolers, LLC*, No. A-15-CV-597-RP, 2017 U.S. Dist. LEXIS 11163, at *13-14 (W.D. Tex. Jan. 27, 2017) (“At trial, parties may ‘introduc[e] evidence as to the plain and ordinary meaning of terms not construed by the Court to one skilled in the art,’ so long as the evidence does not amount to ‘argu[ing] claim construction to the jury.’” (quoting *Apple, Inc. v. Samsung Elec. Co., Ltd.*, 2014 U.S. Dist. LEXIS 22938, 2014 WL 660857, at *3 (N.D. Cal. Fed. 20, 2014))). Accordingly, the jury will not be assisted by replacing the “OSI reference model layers” by an equally, if not more, technical construction offered by Comcast.²

² Further, in other cases by CommWorks against other defendants involving the ’249 patent, not one defendant proposed to construe “OSI reference model layers.” *See* Moore Decl., Exs. 1-3, Joint Claim Construction Statements from other CommWorks cases.

2. “monitor[ing] at least one OSI reference model layer” ('249 pat., claims 11, 29, 30, 31, 38, 48)

CommWorks’ Construction	Comcast’s Construction
no construction required / plain and ordinary meaning	“monitor[ing] the communication resources associated with at least one OSI reference model layer to track quality of service events”

This term requires no construction. Comcast attempts to improperly limit the “monitor[ing]” step to communication resources, which are not expressly recited in the claim. According to the ’249 patent, what may be monitored are “communication links 318” that carry data associated with *all* OSI model layers. ’249 pat., col. 9:17-20 (“Accordingly, the network monitor 308 is capable of segmenting its monitoring of the communication links 318 based on its own categorization scheme, in the resource database 312.”). Monitoring may be associated with only a certain layer (e.g., network layer) without regard to other layers. *Id.*, col. 9:20-29. Such monitoring of links does not involve monitoring communication resources associated with any particular OSI reference model layer, because links are associated with all of them. *Id.*

Comcast’s construction is also improper under the claim differentiation doctrine. “Communication resources” are introduced only in dependent claims indicating that monitoring of OSI layers, and not a “communication resources” limitation, was a deliberate choice by the patentee. *See, e.g.*, ’249 pat., independent claim 11 (“monitoring at least one OSI reference model layer”), and dependent claim 29 (“The method of claim 11 wherein monitoring at least one OSI reference model layer … comprises monitoring communication resources …”).

Comcast further attempts to improperly limit the “monitor[ing]” step “to track quality of service events,” which is not recited in the term. Not only is the introduction of such purpose in the claim improper, but it contradicts the specification. According to the specification, the “monitor[ing]” step may monitor for quality of service events, but “may also collect topological

information” (’249 pat., col. 7:56-58), “maintain [] relationships for all communication resources” (*id.*, col. 12:29-31), and “update the resource database” (*id.*, col. 15:7-11). Therefore, the “monitor[ing]” step may be accomplished by actions *other than* “track[ing] quality of service events” and Comcast’s attempt to limit the “monitor[ing]” step “to track quality of service events” would improperly limit the claim to only certain examples from the specification.

3. “quality of service event” (’249 pat., claims 11, 15, 17, 18, 19, 31, 32, 41, 48, 49)

CommWorks’ Construction	Comcast’s Construction
no construction required / plain and ordinary meaning <i>alternatively, if construed,</i> “event that affects the quality of service of data being sent across a communication system”	“event that affects the quality of service of data being sent across a communication system such as error seconds, unavailable seconds, packet loss rate, transmission time (latency), jitter (deviations from an expected value), and bandwidth throughput”

For this term, no construction is required. If the Court chooses to construe this term, a “quality of service event” is defined in the specification: “Generally, a quality of service event may be defined as any event that effects the quality of service of data being sent across a communication system.” ’249 pat., col. 10:6-9. And this definition is not in dispute and appears in both parties’ proposed constructions.

Comcast’s addition of the “such as . . .” clause in its construction should be rejected for at least three reasons. First, this language is not definitional, but exemplary, and carries the risk of confusing a jury into thinking a quality of service event must be *exclusively* one of Comcast’s examples. Second, Comcast’s proposed construction is an attempt to limit the claims to certain examples from the specification. Third, the ’249 patent goes on to give examples of a “quality of service event” other than those listed in Comcast’s proposed construction. *See id.*, col. 11:16-22 (“an application program . . . may signal . . . it intends to send rich media content to a particular destination” and “[t]his signal may be considered . . . to be a quality of service event.”); *id.*, col.

11:32-33 (“In addition to the quality of service measurements, a quality of service event may be the addition or deletion of communication resources”). Comcast’s proposed construction is deficient because it improperly attempts to limit the claims to select examples from the specification.

4. “signaling that the network provisioning...has been changed” (’249 pat., claims 11, 31, 48, 49)

CommWorks’ Construction	Comcast’s Construction
<i>see “provisioning”</i> no additional construction required	“sending a signal to a network monitor indicating that the change in network provisioning is complete”

No additional construction is required for this term beyond “provisioning.” *See* Section II.A on “provisioning” / “provisioned” above. Comcast’s proposed construction is improper for two reasons. First, it runs afoul of the claim differentiation doctrine because “network monitor” is not recited in the claims where the “signaling . . .” term appears but is recited in other claims. Specifically, claims 11, 31, 48, and 49 of the ’249 patent do not recite a “network monitor” but claim 38 does (“a network monitor coupled to the multi-layered network, wherein the network monitor is adapted to: monitor . . . ”). Second, “signaling” does not necessarily imply a known destination, such as a “network monitor.” *See* Ex. 4, *The New IEEE Standard Dictionary of Electrical and Electronics Terms*. Fifth ed., 1993 at 1218 (CW_CC_00000037) (“Signal – (1) (signals and paths) (microcomputer system bus). The physical representation of data.”).³ Separately, the claims of the ’249 patent do not require “that the change in network provisioning is complete.” The claim language covers signaling regarding changing the provisioning, but not the completion of signaling, so this additional Comcast limitation should not be part of the claim.

5. “balancing data traffic throughout the network” (’249 pat., claims 32, 33)

³ Unless otherwise stated, Exhibits in this brief refer to Exhibits to the Declaration of Brandon G. Moore filed with this brief.

CommWorks' Construction	Comcast's Construction
no construction required / plain and ordinary meaning <i>alternatively, if construed,</i> “adjusting the load of data traffic throughout the network”	Indefinite

“Balancing data traffic throughout the network” has a plain and ordinary meaning to a POSITA and requires no further construction. A POSITA would understand, with reasonable certainty, that if a particular set of links and/or devices on the network process a disproportionate amount of data traffic (*i.e.*, transmission load), the traffic may be “balanced” so that the network resources are utilized in a more comparable fashion. A city street grid is a good analogy. A more preferable and “balanced” situation is when two or more parallel streets have approximately the same number of cars passing. This “balancing” minimizes the traffic times. And this balancing may occur in multiple blocks of the network.

To the extent the Court construes this term, the proper construction is “adjusting the load of data traffic throughout the network,” which is supported by the specification. *See '249 Patent*, col. 14:47-49 (“Additionally, the network controller 304 may use MPLS to balance or distribute the traffic load across the network.”); *see also id.*, col. 13:65-14:8 (“the network controller 304 may change the network provisioning by *balancing the transmission load* carried between the first and second STM-1 lines 540, 544. For example, ... the network controller 304 may adjust the load on the first and second STM-1 lines” (emphasis added)).

Comcast takes issue with the meaning of “balancing,” while at the same time stating that “balance’ implies ‘equalization.’” Op. Br. at 9. One cannot state what the term implies without knowing its meaning. Comcast further questions the level of balance that would constitute infringement. But the “precise” level of balancing goes beyond reasonable certainty. *Nevro Corp. v. Boston Sci. Corp.*, 955 F.3d 35, 40 (Fed. Cir. 2020) (“Definiteness does not require that a potential infringer be able to determine ex ante if a particular act infringes the claims.”) And

the claim does not require achieving perfectly uniform load over the network, just the step of “balancing.”

A POSITA, including Comcast’s expert, understands that adjusting the load of data traffic would meet the “balancing” of claim 32. See Ex. 5, technical paper by Benjamin D. Newton, title page, pp. iii, 44 (“[Geographic Load Share Routing] tends to load balance the link use and helps avoid bottleneck links” (“Approved by: Kevin Jeffay” and “Under the direction of Kevin Jeffay”)). The expert’s own understanding and approval of “balancing” weighs against a finding of indefiniteness. *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370 at 1380 (Fed. Cir. 2017) (“Although Appellees are correct that application by the examiner and an expert do not, on their own, establish an objective standard, they nevertheless provide evidence that a skilled artisan did understand the scope of this invention with reasonable certainty.”)

Further, Comcast again requires a precision for “throughout the network” that goes beyond reasonable certainty.

6. “shortest possible path” ('249 pat., claim 33)

CommWorks’ Construction	Comcast’s Construction
no construction required / plain and ordinary meaning <i>alternatively, if construed,</i> “a path selected by a shortest-path algorithm”	Indefinite

“Shortest possible path” is a concept that is well understood by a POSITA. It is a path selected by a shortest-path algorithm:

Shortest-path algorithm – An algorithm that is designed essentially to find a path of minimum length between two specified vertices of a connected weighted graph. A good algorithm for this problem was given by E. W. Dijkstra in 1959 (see DIJKSTRA’S ALGORITHM).

Ex. 6, *Dictionary of Computing. 6th ed., 2008* at 465 (CW_CC_00000009). If any construction is needed, it should be the one suggested by CommWorks. Continuing with the street traffic

analogy: a navigation app on a smart phone calculates the shortest possible path in the network of roads and streets from the current location to the destination.

A POSITA would understand with reasonable certainty that the “shortest possible path” is the one selected based on the shortest-path algorithm that optimizes some metric (load, latency, the number of hops, etc.). A POSITA would understand that this metric may change, possibly resulting in a different path, but the meaning of “shortest possible path” would remain the same. In fact, Comcast’s own expert presumably understood what a “shortest possible path” meant when he personally approved a paper discussing a “shortest possible path.” See Ex. 5, technical paper by Benjamin D. Newton, title page, pp. 89, 121. This paper approved by and under the direction of Comcast’s expert even cites to the classic shortest-path algorithm referenced in CommWorks’ cited extrinsic evidence. *Id.*, title page, pp. iii, 121 (“... the shortest path to that node in the local topology is determined (using Dijkstra’s algorithm).”); *see also* Ex. 6, *Dictionary of Computing*. 6th ed., 2008 at 465 (CW_CC_00000009) (“Shortest-path algorithm ... A good algorithm for this problem was given by E. W. Dijkstra in 1959 (see DIJKSTRA’S ALGORITHM).”); *see also* *Sonix Technology Co., Ltd.*, 844 F.3d at 1380 (finding expert’s use of the term weighing against the finding of indefiniteness).

7. “means for monitoring at least one OSI reference layer functioning in the multi-layered network” ('249 pat., claim 49)

CommWorks’ Construction	Comcast’s Construction
<u>Function</u> : monitoring at least one OSI reference model layer functioning in the multi-layered network. <u>Structure</u> : standalone or integrated network monitor with hardware and software components, and structural equivalents thereof. To the extent that disclosure of an algorithm is required, see algorithms disclosed in '249 pat., col. 7:48-67, 8:6-10, 9:12-10:6, 10:65-67.	<u>Function</u> : monitoring at least one OSI reference layer functioning in the multi-layered network <u>Structure</u> : network monitor 308 performing one of the following two processes: (1) continually polling communication resources associated with the OSI layer being monitored by sending update requests to the communication resources at predetermined intervals; or (2) receiving alert signals sent

	by the communication resources when predetermined alert thresholds are met.
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The parties agree on the function and that the structure involves the network monitor but disagree whether the algorithm is part of the structure. CommWorks submits that this means-plus-function claim term recites function(s) performed by the “standalone or integrated network monitor with hardware and software components, and structural equivalents thereof.”

First, the '249 patent explains that the network monitor may be standalone or integrated with another component, and has hardware and software components. *See* '249 pat., col. 8:53-56 (“Furthermore, although the network controller 304, the network monitor 308, and the resource database 312 are illustrated as separate devices, the functionality of each device may be implemented within a single device.”); *id.*, col. 7:30-32 (“Moreover, the specific hardware and software implementation of the network monitor 308 may vary depending upon the particular implementation.”).

Second, the network monitor is a special purpose device for monitoring the connectivity of network elements in a network and making decisions regarding the connectivity. *See id.*, col. 2:67-3:6. The '249 patent discloses features of network monitor 308 that evidence its specific purpose. First, the network monitor has the capability to report to network controller and the resource database (*id.*, col. 7:66-67). Second, the network monitor “may be coupled to a multitude of network elements . . . , which may be interconnected using any number of communications links.” *Id.* col. 7:4-8. Third, the network monitor is disclosed as having multiple device drivers for various equipment vendors. *Id.*, col. 8:36-43. All these instances where the '249 patent provides disclosure of the network monitor having features and performing functions outside the range of the general-purpose computer capability indicate that it is a special purpose computer requiring no specific algorithm for means-plus-function

construction. *See Nevro Corp. v. Bos. Sci. Corp.*, 955 F.3d 35, 43 (Fed. Cir. 2020) (confirming there is no requirement for “a specific algorithm when the identified structure is not a general-purpose computer or processor”).

To the extent an algorithm is required, the ’249 patent discloses the “network monitor” performing several “monitoring” algorithms. The specification discloses at least three different ways in which the network monitor may monitor. “The monitoring process of the network monitor 308 may be proactive, reactive, or both.” ’249 pat. col. 9:30-31. Comcast’s proposed structure fails to include this third option: a combination of both proactive and reactive functions and is incorrect for at least this reason.

8. “means for determining that a quality of service event has occurred in the multi-layered network” (’249 pat., claim 49)

CommWorks’ Construction	Comcast’s Construction
<u>Function:</u> determining that a quality of service event has occurred in the multi-layered network. <u>Structure:</u> standalone or integrated network monitor with hardware and software components, and structural equivalents thereof. To the extent that disclosure of an algorithm is required, see algorithms disclosed in ’249 pat., col. 9:40-50, 10:13-37, 11:1-67.	Indefinite <u>Function:</u> determining that a quality of service event has occurred in the multi-layered network <u>Structure:</u> none disclosed

The parties agree on the function. The ’249 patent expressly ties the performance of the “determining” function to the network monitor: “at block 404, the network monitor 308 may determine that a quality of service even has occurred in the network element 314.” ’249 pat., col. 11:1-3. Further, according the ’249 patent the network monitor can be “standalone or integrated” with other devices. *See* ’249 pat., col. 8:53-56 (“. . . although the network controller 304, the network monitor 308, and the resource database 312 are illustrated as separate devices, the functionality of each device may be implemented within a single device.”). And the ’249 patent discloses the network monitor implemented with “hardware and software components.”

Id., col. 7:30-32 (“Moreover, the specific hardware and software implementation of the network monitor 308 may vary depending upon the particular implementation.”) But according to Comcast, no structure is disclosed for performing the “determining” function.

As discussed in Section II.B.7 above, the network monitor is not a general-purpose computer, and therefore “standalone or integrated network monitor with hardware and software components” is sufficient structure performing the “determining” function.

To the extent the Court finds that an algorithm is required for construction, the ’249 patent discloses that this determination is done by comparing certain metrics to thresholds. *Id.*, col. 10:15-17 (“That is, the specific error second thresholds that the network monitor 308 searches for may vary depending upon the communication system.”); col. 11:1-15 (“...the network monitor 308 may monitor a network element 314 for severely errored seconds, and if a severely errored seconds measurement is determined to occur in the network element 314, the network monitor 308 may determine that a quality of service event has occurred.”). This algorithm for determining that a quality of service event has occurred—comparing quality of service measurements with a specific threshold—is well understood by persons of skill in the art including Comcast’s own expert who co-authored a patent discussing the same algorithm. See Ex. 7, U.S. Patent 5,892,754 to, among others, K. Jeffay, Abstract (“The user application specifies desired ranges of Quality of Service parameters and, when the measured network parameters fall outside of the desired range, the user application modifies the transmission strategy to match the available transmission parameters.”); *see also id.*, Fig. 4, col. 7:41-61 (“...these measurement techniques are well known to those of ordinary skill in the art ...”). This evidence weighs against an indefiniteness contention. *See Sonix Technology Co.*, 844 F.3d at 1380 (finding expert’s use of the term weighing against the finding of indefiniteness).

In addition to comparing quality of service measurements with a specific threshold, the specification discloses that the network monitor may determine a quality of service event has occurred (1) when communication resources are added or deleted, or (2) when an application server sends signal of its intention to send rich media content. Specifically, the '249 patent discloses that the network monitor may determine that a quality of service event has occurred with “the addition or deletion of communication resources in a network element.” *Id.*, col. 11:32-34. And the '249 Patent discloses that a “signal from the application server [‘that it intends to send rich media content’] may be considered by the network monitor 308 to be a quality of service event.” *Id.*, col. 11:16-22.

9. “means for determining that the quality of service event occurred at a layer N in the OSI Reference Model” ('249 pat., claim 49)

CommWorks' Construction	Comcast's Construction
<u>Function:</u> determining that the quality of service event occurred at a layer N in the OSI Reference Model. <u>Structure:</u> standalone or integrated network monitor with hardware and software components, and structural equivalents thereof. To the extent that disclosure of an algorithm is required, see algorithms disclosed in '249 pat., col. 9:40-50, 10:13-37, 11:1-67.	Indefinite <u>Function:</u> determining that the quality of service event occurred at a layer N in the OSI Reference Model <u>Structure:</u> none disclosed

The parties agree on the function and the '249 Patent ties the performance of the function to the “standalone or integrated network monitor with hardware and software components.” *See* '249 pat., col. 11:54-56 (“Once a quality of service event is detected, the network monitor 308 may determine that the quality of service event occurred at a layer N in the OSI reference model.”); *id.*, col. 8:53-56 (“Furthermore, although the network controller 304, the network monitor 308, and the resource database 312 are illustrated as separate devices, the functionality of each device may be implemented within a single device.”); *id.*, col. 7:30-32 (“Moreover, the specific hardware and software implementation of the network monitor 308 may vary depending

upon the particular implementation.”). But according to Comcast, the term is indefinite because no structure is disclosed for performing the function “determining that the quality of service event occurred at a layer N in the OSI Reference Model.”

As discussed in Section II.B.7 above, the network monitor is not a general-purpose computer and no algorithm for performing this function is required to construe this term. Nevertheless, to the extent an algorithm is required for construction of this term, it is expressly disclosed as locating which layer the relevant device causing a quality of service event is associated with by locating in the resource database 312:

Once a quality of service event is detected, the network monitor 308 may determine that the quality of service event occurred at a layer N in the OSI reference model. For example, the network monitor 308 may use the resource database 312 to determine where in the OSI reference model the quality of service event occurred. In one illustrative embodiment, the network monitor 308 may determine that a particular router is experiencing a high packet loss rate (i.e., the network monitor 308 may determine that a quality of service event has occurred.) The network monitor 308 may then locate the router in the resource database 312 and determine that the quality of service event is occurring at the network layer of the OSI reference model (layer 3). Therefore, layer 3 would become layer N.

Id., col. 11:54-67 (emphasis added).

10. “means for responding to the quality of service event in the multilayered network by changing network provisioning at a layer less than N” ('249 pat., claim 49)

CommWorks' Construction	Comcast's Construction
<u>Function</u> : responding to the quality of service event in the multilayered network by changing network provisioning at a layer less than N. <u>Structure</u> : standalone or integrated network controller with hardware and software components, and structural equivalents thereof. To the extent that disclosure of an algorithm is required, see algorithms disclosed in '249 pat., col. 12:11-16:20.	<u>Function</u> : responding to the quality of service event in the multilayered network by changing network provisioning at a layer less than N <u>Structure</u> : network controller 304 performing one of the following two processes: (1) changing network provisioning by activating additional lines, thereby increasing the bandwidth between first and second users; or (2) adjusting the load on previously activated lines such that

<i>see “provisioning”</i>	the connection between first and second users is allotted additional bandwidth
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The parties agree on the function and that the structure involves the network controller but disagree on the exact structure of the network controller. The function of this term is performed by the “standalone or integrated network controller with hardware and software components, and structural equivalents thereof.” *See* ’249 pat., Fig. 3, col. 8:47-49 (“Moreover, the specific hardware and software implementation of the network controller 304 may vary depending upon the particular implementation.”), 8:53-56 (“Furthermore, although the network controller 304, the network monitor 308, and the resource database 312 are illustrated as separate devices, the functionality of each device may be implemented within a single device.”).

The network controller is a special purpose computer for changing the connectivity of network elements. The ’249 patent discloses the network controller as “change[ing] the network provisioning,” (col. 12:13-14); “adjusting” and “readjusting” the load on communication lines (col. 14:5-6; 14:14-15); having the ability to respond to a quality of service event using multiprotocol label switching (MPLS) (col. 14:25-55); activating additional communications lines (col. 13:61-64) or virtual circuits (col. 15:60-63); and changing network provisioning on layers 1 and 2 (col. 15:47-49). These capabilities are performed by specialized computers. Further, the ’249 patent discloses the network controller communication on a signaling network comprising fiber lines. *Id.*, col. 8:17-24. Only specialized equipment, especially at the time of the ’249 patent invention, communicated on fiber lines. Additionally, “the network controller 304 and the network monitor 308 may have multiple device drivers each of which provides a different command language.” *Id.*, col. 8:35-38. The ’249 patent goes on to state “[a]lthough the complexities of the network controller 304 are not shown, those skilled in the art will appreciate that the network controller 304 may be comprised of a variety of known devices. Moreover, the

specific hardware and software implementation of the network controller 304 may vary depending upon the particular implementation.” The “complexities” and “specific” implementations indicate that the network controller is not a general-purpose computer.

To the extent an algorithm is required, the ’249 patent states that “[a]ccordingly, for the purpose of the present invention, any change in the configuration, operation, characteristics, properties, etc. of communication resources in a network may be described as a change in network provisioning.” *Id.*, col. 14:63-15:3. The ’249 patent discloses several algorithms that are performed by the “network controller.” For example, the network controller may make a “decision to activate the [additional] STM-1 lines 548, 552” *Id.*, col. 13:34-35; *see also id.*, Fig. 5. “Alternatively, rather than activating the [additional] STM-1 lines 548, 552, the network controller 304 may change the network provisioning by balancing the transmission load carried between the [previously activated] STM-1 lines 540, 544.” *Id.*, col. 13:65-14:2; *see also id.*, Fig. 5. Comcast would like to stop there, but the specification goes on to offer additional algorithms, such as various provisioning methods using MPLS or activating additional virtual circuits. *See id.*, col. 14:17-28, 14:40-55.

In sum, Comcast’s construction is improper because the network controller is not a general-purpose computer and requires no algorithms to be part of the structure, and even if it were a general-purpose computer, Comcast’s construction ignores multiple algorithms disclosed in the specification.

11. “means for signaling that the network provisioning at the layer less than N has been changed” (’249 pat., claim 49)

CommWorks’ Construction	Comcast’s Construction
<u>Function:</u> signaling that the network provisioning at the layer less than N has been changed. <u>Structure:</u> standalone or integrated network controller with hardware and software components, and structural equivalents	Indefinite <u>Function:</u> signaling that the network provisioning

thereof. To the extent that disclosure of an algorithm is required, see algorithms disclosed in '249 pat., col. 8:17-43, 15:4-11, 15:63-67. <i>see “provisioning”</i>	at the layer less than N has been changed <u>Structure:</u> none disclosed
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While Comcast argues that this term is indefinite, its own expert co-authored a patent using substantially similar language, as explained in detail below. As to the term, the parties agree on the function. The '249 patent ties the performance of the function to the "network controller" discussed in Section II.B.10 above. "[T]he network controller 304 may signal the network monitor 308 that the change in the network provisioning is complete." *Id.*, col. 15:5-7. But according to Comcast, the term is indefinite because no structure is disclosed for performing the "signaling" function.

First, as discussed in Section II.B.10 above, the network controller is not a general-purpose computer and therefore, the structure does not require the recitation of specific algorithms.

Second, even if the network controller is found to be a general-purpose computer, the '249 patent sufficiently discloses the performance of the signaling step. The '249 patent discloses that the network controller sends a signal to the network monitor through existing communication links of the communication resources, and the signal contains information that the network provisioning has been changes. *See id.*, Fig. 4 at block 416, col. 15:4-7.

The signaling step, which requires merely sending information from one device to another was understood by persons of skill in the art and required no further elaboration. In fact, Comcast's expert co-authored a patent claiming, among other elements, "means for transmitting an event signal . . ." and the patent plainly discloses "[r]esults of such monitoring [including 'the occurrence of events affecting transmission parameters'] are reported, using prior art signaling methods, to the user applications 40-42 by network event reporter 43." See Ex. 7, U.S. Patent

5,892,754 to, among others, K. Jeffay, Fig. 4, col. 2:57-60, col. 5:65-67. This disclosure made my Comcast's expert is a strong indication that the signaling entity, *e.g.*, the "network controller," performing the function of "signaling that the network provisioning ... has been changed" is well understood by Comcast's expert. *See Sonix Technology Co.*, 844 F.3d at 1380.

C. Terms of U.S. Patent No. 7,027,465 ("465" patent)

The '465 patent is entitled "Method For Contention Free Traffic Detection." This patent discloses improvements in detecting and handling higher priority network traffic. *See Abstract* and Figs.

- 1. "identifying a received frame as a priority frame in case said extracted bit pattern matches with said search pattern" ('465 pat., claims 1, 6, 7)**

CommWorks' Construction	Comcast's Construction
no construction required / plain and ordinary meaning	identifying a received frame as a priority frame based solely on said bit pattern and said search pattern being identical

This term is clear on its face and requires no construction. Comcast relies on Fig.5 and corresponding text in attempt to argue that identification of priority is to be based solely on an extracted bit pattern. Op. Br. at 17. Fig. 5 illustrates the "second embodiment":

The operation according to the second embodiment is described by referring to FIGS. 5 and 6. It is noted that for simplifying the illustration, the second embodiment is described with reference to the case that the priority is detected by using two information elements.

'465 pat., col. 7:9-12. Comcast's construction is unduly limiting and contradicts the specification for several reasons.

First, the '465 patent expressly notes that Comcast's chosen embodiment is simply an example: "[a]s mentioned above, the use of two information elements is only an example." *Id.*, col. 7:62-63. The patent also explains that "[b]y using a plurality of information elements, it is

also possible to distinguish between different priority levels.” *Id.*, col. 7:64-66.

Second, the ’465 patent explains that even the second embodiment permits identification of priority based on more than just the extracted bit pattern. Specifically, certain embodiments require the use of a mask—which is not extracted—to identify which extracted bits to consider when identifying priority: “the information element according to the second embodiment comprises the offset and the search pattern according to the first embodiment, and in addition a mask. The mask serves to obtain only particular bits in the extracted bit pattern and is optional.” *Id.*, col. 7:3-7. Thus, the second embodiment describes an optional mask used in priority processing, not just the extracted bit pattern. When a mask is applied to “the extracted bit pattern,” identification of a frame is not “based solely on said bit pattern” as Comcast suggests because without the mask the “extracted bit pattern” would provide incorrect priority information.

Third, the ’465 patent explains that identification of a priority frame can also be based on configuration data—not solely data extracted from a received data frame:

For example, the configuration program can give the following data to the Access Point by which three priorities (i.e. priority 1, priority 2 and priority 3) can be distinguished.

. . .

If the frame does not match with all information elements listed in the first group, then the AP tests the same frame with all the information elements (one, in this example) of the second group containing the information elements for priority 2.

Id., col. 7:66-8:30. A person skilled in the art would recognize that matching “based solely on said bit pattern and search pattern being identical,” as suggested by Comcast, would not identify a frame as a priority frame—the frame would also have to match all other information elements in that group. In fact, the same “search pattern” can belong to multiple priorities. *See Id.*, col. 8:6-17 (“offset 2 and search pattern 2” appearing in Priority 1 and 3 but

not Priority 2). Thus, in some disclosed embodiments, the extracted bit pattern alone is not sufficient to identify a frame as a “priority frame.” Accordingly, Comcast’s construction is unduly narrow and this claim element requires no construction.

2. “priority frame” (**'465 pat., claims 1, 6, 7**)

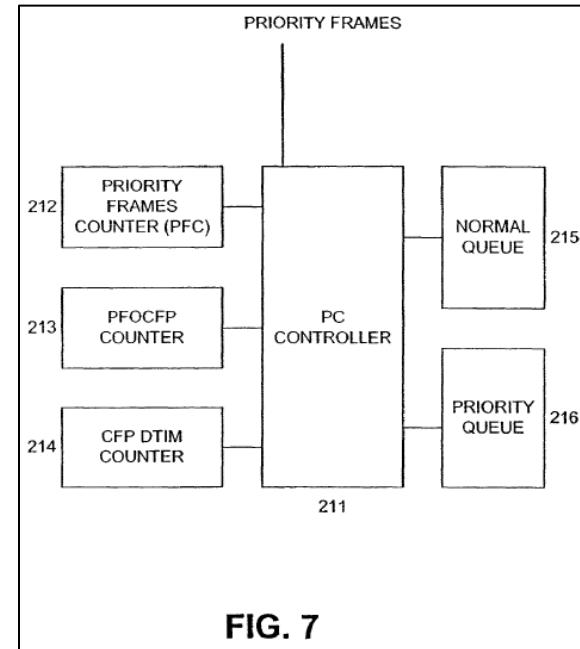
CommWorks’ Construction	Comcast’s Construction
no construction required / plain and ordinary meaning	data frame that is given higher priority in traffic handling than other data frames

Comcast’s construction for this term contradicts express disclosure of the ’465 patent. While Comcast argues that a “priority frame” must be “given higher priority in traffic handling,” the ’465 patent states:

As mentioned above, the PC 21 forwards the received priority frames either to the normal queue 215 or to the priority queue 216 depending on the current state of the network.

’465 pat., col. 8:64-67. Thus, a “priority frame” does not have to be given higher priority in traffic handling. This is further confirmed by Fig. 7 (shown on right) of the ’465 patent, which shows that “Priority Frames” enter “PC Controller 211” but those same “priority frames” can then be forwarded to “Normal Queue 215.”

Comcast also appears to incorrectly assume that the sentence from the ’465 patent it cites in its brief defines “priority frames.” While it is true that in the ’465 patent “certain traffic can be defined to have higher priority than other traffic” (col. 2:57-60), the patent does not equate “certain traffic” with “priority frames.” In fact, in view of the above disclosure of priority frames being forwarded to normal queues, a more logical conclusion is that not all priority



frames are given higher priority than other data frames.

Accordingly, Comcast's construction is unduly narrowing, and this term requires no construction.

3. “offset” ('465 pat., claims 1, 6, 7)

CommWorks' Construction	Comcast's Construction
no construction required / plain and ordinary meaning	numerical value indicating a number of bits from the beginning of the data frame

The word “offset” is readily understandable by a jury and requires no construction.

Comcast's construction of “offset,” however, is incorrect for several reasons.

Comcast would limit the offset to “bits from the beginning of the data frame.” But the '465 patent explains that the offset *does not* have to be “from the beginning of the data frame.” The '465 patent discusses the example of an IP packet encapsulated in the data frame. In that example, the destination IP address field has a 46-byte offset from the beginning of the frame and a 32-byte offset from the beginning of the IP packet, which is not the beginning of the frame.

Next, an example is described in which frames (containing IP packets) to be sent to a particular IP-address [sic] should have high priority. In this case, the identification of the search patterns and the location of the search patterns can be performed as follows: The configuration program knows that the offset to the destination IP-address from the beginning of the IP packet (as an example for a data frame) is 32 bytes and the offset from the beginning of the ethernet (version 2) frame to beginning of the IP packet is 14 bytes. Thus, the actual offset of the IP-address is 46 bytes.

'465 pat., col. 11:26-39. The '465 Patent expressly uses the word “offset” for both the 46-byte and 32-byte values. Yet Comcast would limit the “offset” to be measured *only* “from the beginning of the data frame,” which would be inconsistent with the usage of this term in the specification.

For at least this reason, Comcast's construction is unduly limiting, and this term requires

no further construction.

4. “high priority queue” ('465 pat., claim 7)

CommWorks’ Construction	Comcast’s Construction
no construction required / plain and ordinary meaning	queue reserved exclusively for high priority frames

Comcast’s construction is incorrect because it contradicts express disclosure of the specification. In the ’465 patent, during certain time periods priority queues hold frames that are no longer high priority. For example, in one embodiment, once the contention period ends, the “priority queue” transfers all of its frames to a “normal queue” to be sent without high priority:

During the CFP, all the frames in the priority queue are transmitted before any frames from the normal queue. When the CFP ends, remaining frames in the priority queue are moved to the normal queue and priority queue is flushed.

’465 pat., col. 6:57-61. Considering that frames in a “high priority” queue get transferred to a “normal queue,” the “high priority queue” is not reserved exclusively for high priority frames. For these reasons, Comcast’s construction is unduly limiting.

D. Terms of U.S. Patent No. 7,177,285 (“285” patent)

The ’285 patent is entitled “Time Based Wireless Access Provisioning.” This patent discloses improvements in securely connecting network devices using time-based provisioning methods. *See Abstract.*

1. “tracking an operating parameter of [the/a] wireless device [within a service area]” ('285 pat., claims 1, 22, 43)

CommWorks’ Construction	Comcast’s Construction
<i>see “operating parameter”</i> no additional construction required	monitoring and noting the time of an operating parameter of the wireless device within a service area

These terms require no construction beyond their plain and ordinary meaning. Comcast’s construction is incorrect for several reasons. First, Comcast attempts to define “tracking” as

“monitoring and noting the time.” But certain embodiments of the access point in the ’285 patent track operating parameters, such as repeatability, without requiring the noting of time:

For example, for a neighboring device which is switched on and off repeatedly, such as for an undesired wireless device or user in search of a network access point 12, the network access point 12 tracks the repeated powering operation, and can deny provisioning access as desired.

’285 pat., col. 8:21-25.

Second, the claims require only that an action be taken if the tracked operating parameter occurs within a time interval. For example, claim 1 requires “initiating provisioning of the wireless device if the tracked operating parameter occurs within a time interval.” The claim does not require knowledge of whether the tracked parameter occurred at the beginning, in the middle, or at the end, of the “time interval”—only that it occur “within a time interval.” And a skilled artisan would recognize that “noting the time” of an event is not required in a scenario where all events occurring during a time interval lead to permissible provisioning. For example, once the time interval is opened and until it is closed, no time tracking of events is required. In other words, an access point need not note the specific time of an event to know that it occurred during an acceptable time interval.

2. “[logic for] initiating [provisioning/an association] of the wireless device [with a network] if the tracked operating parameter occurs within a time interval” (’285 pat., claims 1, 22, 43)

CommWorks’ Construction	Comcast’s Construction
“ initiating provisioning ... ” in claim 1: no construction required beyond “provisioning”	Indefinite <u>Function</u> : initiating [provisioning/an association] of the wireless device if the tracked operating parameter occurs within a time interval
“ logic for initiating [provisioning/an association]... ” in claims 22 and 43 <u>Function</u> : initiating [provisioning/an association] of the wireless device [with a network] if the tracked operating parameter	<u>Structure</u> : None

<p>occurs within a time interval.</p> <p><u>Structure</u>: access point, comprising a provisioning activation button, time based provisioning logic, access control list, wired network logic, a wired network connection, and a transceiver, and their equivalents.</p> <p><i>see “provisioning”</i></p> <p><i>see “operating parameter”</i></p>	
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As an initial matter, Comcast misstates the record when it argues that “[t]he parties agree that the terms ‘initiating provisioning...’ (in claim 1) ... are subject to the requirements of Section 112 ¶ 6.” Op. Br. at 26. Claim 1 is a process claim, and CommWorks never agreed that this is a means-plus-function claim term. To the contrary, in its Disclosure of Extrinsic Evidence, CommWorks explained that this term in claim 1 requires “no additional construction” beyond the term “provisioning”:

37.	<p>“initiating provisioning of the wireless device if the tracked operating parameter occurs within a time interval”</p> <p>U.S. Pat. No. 7,177,285 (claims 1, 22)</p>	<p><i>see “provisioning”</i></p> <p>no additional construction required</p>	<p>Parameter: 1 a boundary or limit 2 a factor or characteristic</p> <p>Goldman, Johnathan L., and Andrew N. Sparks, and Andrew N. Sparks, <i>Webster’s New World Student’s Dictionary</i>. Revised ed., Wiley Publishing, Inc., 1996:640 (CW_CC_00000050).</p>
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Ex. 8, CommWorks’ Disclosure of Extrinsic Evidence, at 20. During the meet and confer process, at Comcast’s request, CommWorks agreed to brief the claim 1 term together with the same language appearing in MPF claims 22 and 43:

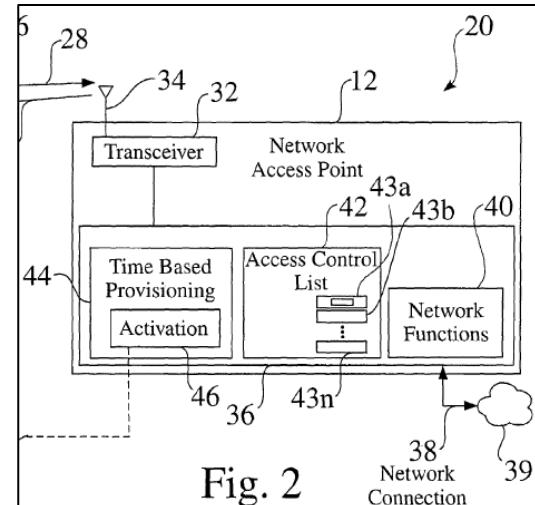
- As discussed, CommWorks agrees to brief “[logic for] initiating [provisioning/an association] of the wireless device [with a network] if the tracked operating parameter occurs within a time interval” as 1 term rather than 3 separate terms.

Ex. 9, Oct. 7, 2021 Email from B. Moore to counsel for Comcast. Following the meet and confer with Comcast, CommWorks updated its proposed constructions to combine the terms from claims 1, 22, and 43 into a single cell, but CommWorks never agreed that claim 1 is an MPF term. Ex. 10, CommWorks’ Revised Proposed Claim Constructions, at 9.

As to the non-MPF term in claim 1 “initiating provisioning of the wireless device if the tracked operating parameter occurs within a time interval,” this term is easily understood and requires no construction.

For the means-plus-function terms (in claims 22 and 43), the parties agree on the function. Yet, in analyzing the corresponding structure, Comcast truncates the function to merely “initiating provisioning/an association” and ignores that provisioning/association occurs (1) “if the tracked operating parameter occurs within a time interval” and (2) with a network, as required by the claims. In essence, Comcast argues that because the flowcharts in Figs. 3 and 4 culminate in an “Initiate Provisioning” step 64, the entire claim term is indefinite to the exclusion of other steps leading to step 64 and ignoring several disclosed algorithms linked to performing the entire recited function.

The structure for performing this function is an “access point, comprising a provisioning activation button, time based provisioning logic, access control list, wired network logic, a wired network connection, and a transceiver, and their equivalents.” This structure is illustrated in Fig. 2 (shown on right), Fig. 7, and their corresponding disclosure in the specification.



All components identified in the above structure are involved in performing the recited function. The “provisioning activation button” and “time based provisioning logic” are plainly used in provisioning. The “access control list” is used for both “initiating provisioning” (claim 22) and “initiating association of the wireless device with a network” (claim 43):

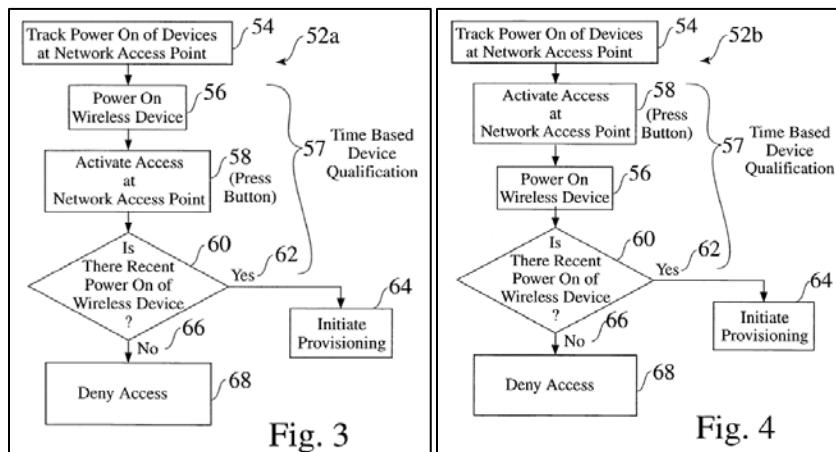
The network access point 12 shown in FIG. 2 comprises an access control list 42, which identifies wireless devices 14 which have

proper access to the local network 17 (FIG. 1), such as by storing accepted device identifications 50 as list elements 43a-43n.

'285 pat., col. 4:52-57.

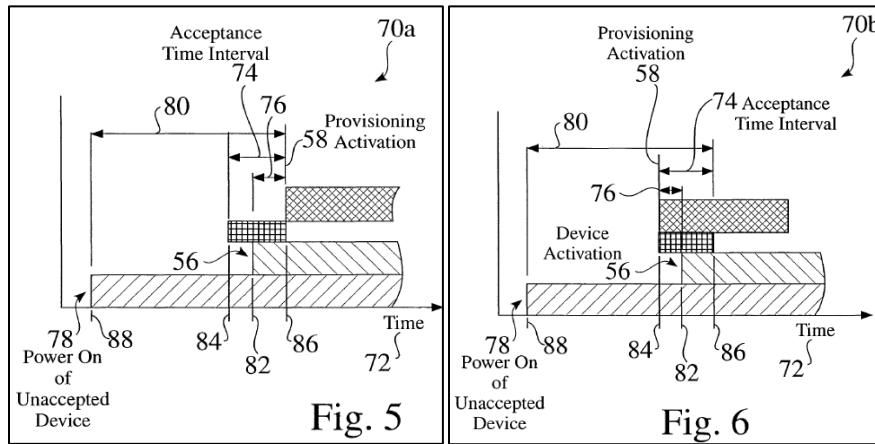
The “wired network logic” and “wired network connection” components of the access point are necessary for “initiating association of the wireless device with a network” in claim 43. Those components are also necessary for “initiating provisioning” in claim 22 because the preamble of that claim recites “[a]system for provisioning between a wireless device and a network, comprising...logic for initiating provisioning of the wireless device . . .”. The “transceiver” is also necessary for “provisioning of the wireless device” (claim 22) and “initiating an association of the wireless device” (claim 43) because it is the structure that transmits/receives wireless signals from wireless device and there would be no provisioning (i.e., connectivity) without it. Thus, all components of the access points identified by CommWorks are linked to the recited function.

As to the algorithms, the access point is not a general-purpose computer, but if the Court still determines that it is, the '285 patent provides various algorithms for provisioning. Figs. 3 and 4 illustrate high level process steps that culminate in “initiate provisioning” steps:



Id., Figs. 3-4. See also, e.g., *id.*, col. 5:36:54, 6:22-51. The patent also expressly discloses

several algorithms for “initiating [provisioning/an association] of the wireless device [with a network] if the tracked operating parameter occurs within a time interval.” In fact, the patent provides two separate timing charts that illustrate timing intervals for the various disclosed algorithms:



Id., Figs. 5-6. The patent also discusses the algorithms in more detail in the specification (describing Figs. 5-6, *e.g.*, *id.*, col. 5:55-6:21, 6:52-7:10), Figs. 3-4 (describing steps of algorithms) and in associated text (*e.g.*, *id.*, col. 5:36:54, 6:22-51).

Accordingly, one skilled in the art would understand this term with reasonable certainty.

3. “time interval” (‘285 pat., claims 1, 4, 13, 14, 22, 25, 34, 35, 43, 46, 54, 55)

CommWorks’ Construction	Comcast’s Construction
no construction required / plain and ordinary meaning	acceptance time interval, otherwise, indefinite

The word “time interval” is well understood and requires no construction. Comcast, however, argues that:

If “time interval” is not construed as an “acceptance time interval,” then the term is indefinite because there is no way to discern what interval of time this term refers to and how the claimed invention would determine if a tracked operating parameter occurred within or outside the designated time interval.

Op. Br. at 29. First, Comcast's argument is self-defeating because it concedes that "time interval" is simply "an interval of time." Second, Comcast's indefiniteness argument goes not to the bounds of "time interval" but rather its breadth. But "the inference of indefiniteness simply from the scope finding is legally incorrect: 'breadth is not indefiniteness.'" *BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1367 (Fed. Cir. 2017) (quoting *SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1341 (Fed. Cir. 2005)).

Third, the '285 patent discloses several different time intervals, including time intervals 74, 76, and 80 illustrated in Fig. 5 (reproduced on the right).

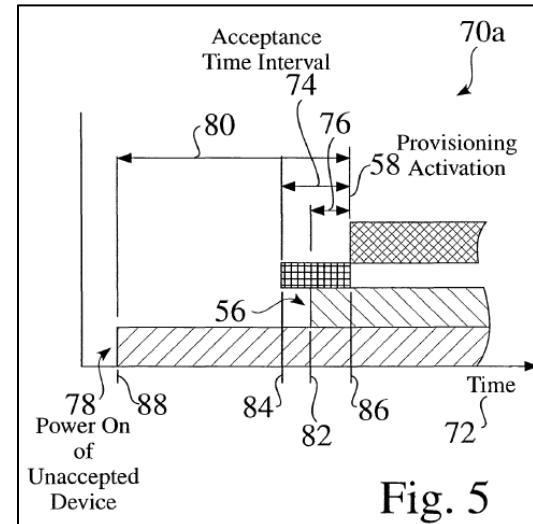
Notably, the "acceptance time interval"—to which Comcast would limit any "time interval"—is only one of three depicted intervals. The specification further expounds on the presence of multiple time intervals:

"As seen in FIG. 5, the time interval 76 for the desired device 14 properly falls within the acceptance interval 74, such that the provisioning logic 44 accepts 62 the wireless device 14, and initiates provisioning 64." '285 pat., col. 6:7-11. *See also id.*, col. 6:15-21 (discussing "time interval 80" and "acceptance interval 74").

Accordingly, "time interval" is not indefinite, and the '285 patent provides other embodiments of "time intervals" that do not fall within Comcast's narrow construction.

4. "means for tracking an operating parameter of [the/a] wireless device" ('285 pat., claims 22, 43)

CommWorks' Construction	Comcast's Construction
<u>Function</u> : tracking an operating parameter of [the/a] wireless device. <u>Structure</u> : access point, comprising a provisioning activation button, time based	<u>Function</u> : tracking an operating parameter of [a] wireless device <u>Structure</u> : access point, comprising a provisioning activation button, time based



provisioning logic, access control list, wired network logic, a wired network connection, and a transceiver, and their equivalents. <i>see “operating parameter”</i>	provisioning logic, access control list, wired network logic, a wired network connection, and a transceiver, and their equivalents implementing the algorithm depicted in Figs. 5 and 6, items 70a and 70b and described at 5:63-6:7 and 6:52-62.
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The parties agree on the function, and most of the structure, but disagree whether the algorithm is part of the structure. Comcast mistakenly relies on the *Aristocrat* case for the proposition that any computer-implemented function must include the algorithm. Op. Br. at 29. Not so. The *Aristocrat* court limited its opinion, explaining that “[i]n cases involving a computer-implemented invention in which the inventor has invoked means-plus-function claiming, this court has consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor.” *Aristocrat Techs. Austl. PTY Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008) (emphasis added). In a subsequent case, the Federal Circuit confirmed that “[*Aristocrat*] does not require a specific algorithm when the identified structure is not a general-purpose computer or processor.” *Nevro Corp. v. Bos. Sci. Corp.*, 955 F.3d 35, 43 (Fed. Cir. 2020). In *Nevro*, the Federal Circuit further explained:

[The patent holder] argues that the asserted patent specifications' disclosure of a signal generator as the structure for this limitation should end the inquiry. We agree. . . . Here, the specification clearly recites a signal or pulse generator, not a general-purpose computer or processor, as the structure for the claimed “generating” function.

Nevro Corp. v. Bos. Sci. Corp., 955 F.3d 35, 42 (Fed. Cir. 2020).

In the present case, both parties have agreed that the structure is not “simply a general purpose computer or processor.” First, the structure is an “access point”—not a general purpose computer or processor. Second, the structure includes several components that are not found in general purpose computers or processors—such as “a provisioning activation button, time based

provisioning logic, access control list...and a transceiver.” Thus, the *Aristocrat* rationale relied upon by Comcast does not apply, just like it did not apply in *Nevro*.

For these reasons, the structure of this term does not require the inclusion of an algorithm.

E. Terms of U.S. Patent No. 7,760,664 (“664” patent)

The ’664 patent, entitled “Determining and Provisioning Paths in a Network” discloses improvements to computer systems used to establish connections between network elements, such as routers. *See Abstract*.

1. “digital cross connect [system]” (’664 pat., claims 1, 3, 4, 6, 7, 9, 13)

CommWorks’ Construction	Comcast’s Construction
no construction required / plain and ordinary meaning <i>alternatively, if construed,</i> “device that interconnects networks”	“a device that interconnects networks (or portions of networks), wherein the interconnected networks (or portions thereof) use different protocols or traffic rates”

CommWorks submits that this term requires no construction. Comcast uses the words “digital cross connect” in its construction of the term “whether a cross-connection using said digital cross connect [system] was successfully provisioned” below, which suggests that even Comcast believes no further construction is required. To the extent the Court decides to construe this term, “digital cross connect [system]” is defined in the specification: “As used herein, a DCS is any device that interconnects networks . . . ,” consistent with CommWorks’ proposal. ’664 pat., col. 5:21-22. Further, Comcast’s proposed construction violates established claim construction principles by reading an embodiment into the claim. The specification explains possible purposes of the DCS interconnection: “. . . [1] to facilitate traffic routing from one network to another **or** [2] to link portions of networks using one protocol or traffic rate to another portion using a different protocol or rate.” *Id.*, col. 5:22-25 (emphasis added). Comcast reads in the second alternative into the claim, improperly limiting it to one of possible alternatives. See *Epos*

Tech. Ltd. at 1341. Moreover, Comcast's proposed construction excludes from the scope of the claim the situation where a "digital cross connect" happens to connect networks that use the same protocols or traffic rates. What networks are being connected to a device cannot change whether it is or is not a digital cross connect.

Comcast's prosecution-history argument is unavailing and misstates the record. Applicant never defined "digital cross connect" and the amendment that replaced "common network device" with digital cross connect did not advance the claim to allowance. Comcast's statement that "applicant acknowledged" certain aspects of prior art Lu's "shared network node" is also not accurate. In the passage discussed by Comcast, the patentee argued that:

Column 3, lines 30-33 of Lu state an "efficient routing procedure is therefore required capable of crossing network boundaries and capable of route determination through subnetworks."

Op. Br., Ex. 16 at 7. This is not an acknowledgement of Lu's "shared network node" *interconnecting* networks.

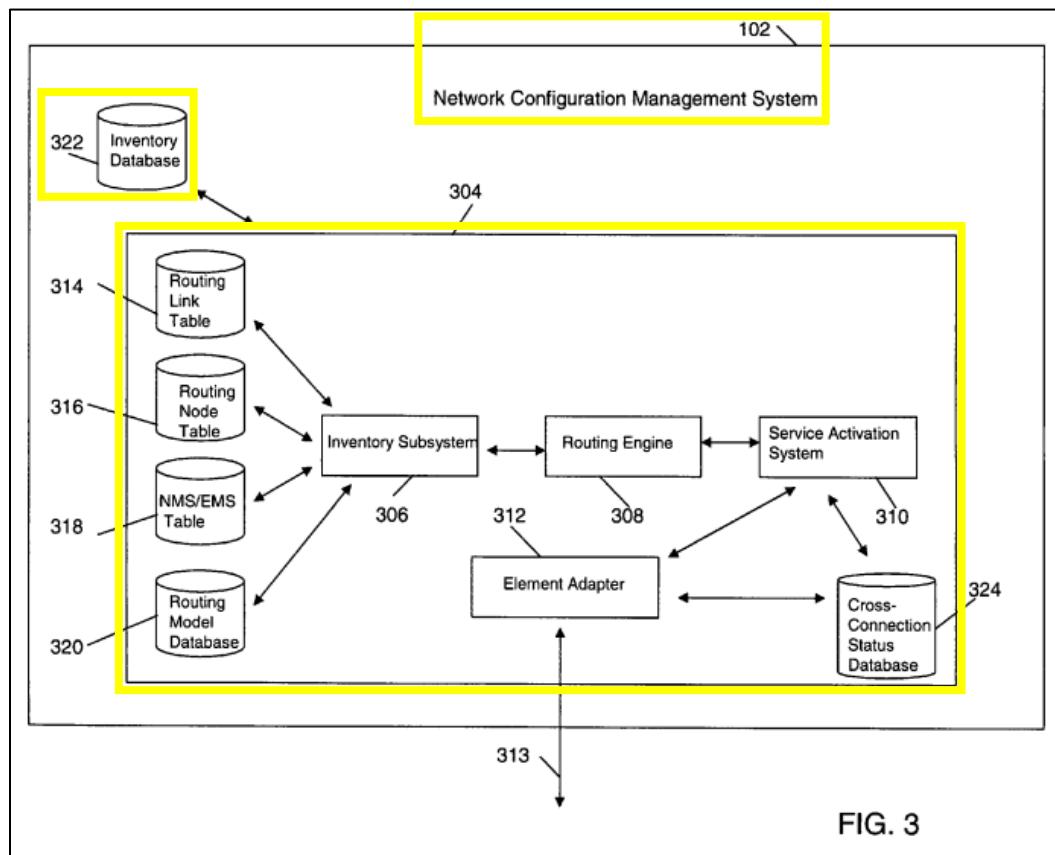
2. "means for creating a graph of routing nodes and links" ('664 pat., claim 4)

CommWorks' Construction	Comcast's Construction
<u>Function</u> : creating a graph of routing nodes and links. <u>Structure</u> : network configuration management system comprising a routing manager and inventory database and structural equivalents thereof. To the extent that disclosure of an algorithm is required, see algorithms disclosed in '664 pat., col. 3:22-25, 4:7-9, 4:13-18, 6:64-7:45; see also '187 pat. app. (US 2003/0189919), paras. [0032]-[0033], [0035].	Indefinite <u>Function</u> : creating a graph of routing nodes and links <u>Structure</u> : none disclosed

The parties agree on the function, but Comcast contends that no corresponding structure is disclosed. CommWorks, however, submits that this means-plus-function claim term recites function(s) performed by the "network configuration management system comprising a routing

manager and inventory database and structural equivalents thereof.” See ’664 pat., Fig. 3, col. 3:57-66.

As an initial matter, the “network configuration management system” is not a general purpose computer. “FIG. 3 shows an illustrative network configuration management system, such as Network Configuration Management System (NCMS) 102 … [which] includes, among other components, a routing manager 304 and inventory database 322[:]”



Id., Fig. 3 (yellow highlights added), col. 3:57-66. The network configuration management system is a specialized system for network management, not a general purpose computer. A general purpose computer does not have the inventory database, inventory subsystem interfacing various tables, a routing engine, service activation system, element adapter, and cross-connection status database. And the ’664 patent ties the agreed upon function of “creating a graph of routing

nodes and links” to the “network configuration management system” and discloses that “a network routing graph is created by an inventory subsystem in a routing manager by inventorying the physical network elements and links in the network.” *Id.*, col. 3:22-25; *see also id.*, col. 4:7-8 (“the routing manager 304 maintains a topological graph”).

To the extent the algorithms are required for the structure, the ’664 patent discloses that every time a network component is added, deleted, or modified, the network configuration management system updates the inventory database, and calls the routing manager to update the routing topology in database tables. *Id.*, col. 4:13-18 (The routing manager “builds and maintains the topological graph in accordance with modeling methods such as those described above in association with the ’187 application. This graph is maintained, illustratively, in three database tables: routing link table 314, routing node table 316, and NMS/EMS table 318.”). According to the referenced ’187 application, ‘Each time the network changes, the network configuration management system updates the inventory database and invokes the inventory subsystem 206 to update the routing topology/graph.’” Ex. 11, ’187 pat. app., para. [32]. The referenced ’187 application goes on to disclose the steps taken to create a graph of routing nodes and links:

Reference will now be made to the actual ***creation of the routing topology/graph within these tables***, beginning with the network elements and the routing node and NMS/EMS tables. As indicated, each time a network element is added to the network, the network configuration management system 202 updates the inventory database 222 to reflect the new element. The network configuration management system then calls the inventory subsystem 206 to update the routing topology. In general, for each network element added to the network, the network configuration management system provides the inventory subsystem with, for example: the product type, the manufacturer, and the network element identifier. Having this information, the inventory subsystem uses the manufacturer and product information to query the routing model database 220 to determine the equipment’s routing model type and

uses the network element identifier to query the inventory database 222 to determine the subsystem identifier of the management entity that controls the network element. Based on this information, the inventory subsystem updates the routing tables, as described below.

Id., para [35] (emphasis added). Case law permits “a patentee to express an algorithm ‘in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure.’” *TecSec, Inc. v. IBM*, 731 F.3d 1336, 1348 (Fed. Cir. 2013) (quoting *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008)). Accordingly, to the extent algorithms are required to set forth the structure for this term, specification discloses sufficient detail for a POSITA to understand with reasonable certainty the algorithm of the function to be performed by the structure, *i.e.*, the network configuration management system.

3. “means for modeling said at least a first digital cross connect system as a link between those routing nodes representing said first network element and said second network element” (’664 pat., claim 4)

CommWorks’ Construction	Comcast’s Construction
<u>Function</u> : modeling said at least a first digital cross connect system as a link between those routing nodes representing said first network element and said second network element. <u>Structure</u> : network configuration management system comprising a routing manager and inventory database and structural equivalents thereof. To the extent that disclosure of an algorithm is required, see algorithms disclosed in ’664 pat., col. 7:24-45; see also ’187 pat. app. (US 2003/0189919), paras. [0032]-[0033], [0035].	Indefinite <u>Function</u> : modeling said at least a first digital cross connect system as a link between those routing nodes representing said first network element and said second network element <u>Structure</u> : none disclosed

The parties agree on the function but Comcast believes no structure is disclosed.

CommWorks, however, submits that this means-plus-function claim term recites function(s) performed by the “network configuration management system comprising a routing manager and inventory database and structural equivalents thereof.” See ’664 pat., Fig. 3, col. 3:57-66.

As discussed above in Section II.E.2, the “network configuration management system” is

not a general-purpose computer and therefore algorithms are not required for the construction of this term. If, however, the algorithms are required, the specification discloses, in detail, the steps taken by the network configuration management system (NCMS) to model a digital cross connect system as a link:

One skilled in the art will recognize that, as DCSs or other network components are added or deleted, the NCMS will inventory the network elements and links between the elements, treating DCSs as links as described above. Specifically, this inventory is conducted by the inventory subsystem 306 of FIG. 3. As a part of this inventory, routing link table 314, routing node table 316, NMS/EMS table 318 and cross connection status database 324 are updated with information about the links, nodes and cross connections in and between the networks managed by the NCMS 102. Therefore, in this inventory, information concerning each DCS will be updated in the cross-connection status database and those same DCSs will be updated as links in the routing link table. As a result, when service activation system 310 invokes the routing engine 308 to provision a path, that engine will treat the DCSs as links to be provisioned and not one or more network nodes corresponding to the ports on the DCS. When network traffic traverses a particular DCS, configuration and status information related to that DCS is retrieved from cross connection status database 324 to identify how the path across the DCS should be provisioned to route the traffic to the appropriate destination.

Id., col. 7:24-45. Accordingly, to the extent algorithms are required to set forth the structure for this term, the specification discloses sufficient detail for a POSITA to understand with reasonable certainty the algorithm of the function to be performed by the structure, *i.e.*, the network configuration management system.

4. “means for storing a status of each of said interconnections” ('664 pat., claim 4)

CommWorks’ Construction	Comcast’s Construction
<u>Function</u> : storing a status of each of said interconnections. <u>Structure</u> : network configuration management system comprising a routing manager and inventory	<u>Function</u> : storing a status of each of said interconnections <u>Structure</u> : cross connection status database 324 storing configuration and status information for the digital cross connect system

database and structural equivalents thereof.	
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The parties agree on the function but disagree on the structure. CommWorks submits that this means-plus-function claim term recites function(s) performed by the “network configuration management system comprising a routing manager and inventory database and structural equivalents thereof.” *See* ’664 pat., Fig. 3, col. 3:57-66. *See also id.*, col. 4:45-47 (“it is necessary for the NCMS 102 to also have available configuration and status information related to these DCSs.”). Comcast submits that only one database—cross connection status database 324—that is part of the NCMS performs this function and urges the Court to adopt its position because “its clearer language will better assist the jury.” Op. Br. at 37. But the ’664 patent discloses the network configuration management system 102—and not only the cross connection status database—storing a status of each interconnection. While the database can be the repository for storing information, the step of storing in the database (including supplying relevant data) must involve another structure, i.e., the network configuration management system.

5. “whether a cross-connection using said digital cross connect [system] was successfully provisioned” (’664 pat., claim 49)

CommWorks’ Construction	Comcast’s Construction
<i>see</i> “digital cross connect [system]” <i>see</i> “provisioned” no construction required / plain and ordinary meaning	“whether traffic was successfully routed across the digital cross connect [system] to the appropriate destination”

CommWorks submits that no construction is required for this term beyond “digital cross connect [system]” in Section II.E.1 above and “provisioned” in Section II.A above. Comcast’s proposed construction implies that to be successfully provisioned, traffic must be sent over the route. There is no support in the specification that for a DCS to be “successfully provisioned,” it

must already have sent traffic. '664 pat., col. 7:36-45. The passage cited by Comcast states that “provisioning” is an operation that must be carried out *before* the traffic can be routed over the digital cross connection: “. . . the path across the DCS should be provisioned to route the traffic to the appropriate destination.” *Id.*, col. 7:44-45. Accordingly, “successfully routing the traffic to the appropriate destination” is not “provisioning.”

F. Terms of U.S. Patent No. 8,923,846 (“846” patent)

The '846 patent, entitled “Recovery Techniques in Mobile Networks” discloses improvements to protecting location information of a subscriber in a mobile network. *See* Abstract.

1. “transport address” ('846 pat., claims 1, 4, 5, 6, 7, 8)

CommWorks’ Construction	Comcast’s Construction
IP address associated with a mobile node while the subscriber is visiting a particular foreign link	the current IP address, not the static home address, through which the mobile device can be reached when visiting a foreign link

The '846 patent expressly defines this term. First, the specification states that “the present disclosure relates to protecting the Transport Address (TA) which is a current Care of Address of a mobile subscriber . . .” '846 pat., col. 1:22-24 (emphasis added). Second, the specification further defines this term, stating that “[a] care-of address is an IP address associated with a mobile node while the subscriber is visiting a particular foreign link.” *id.*, col. 3:32-34 (emphasis added). This definition is consistent with the file history. Specifically, Comcast admits that “[d]uring prosecution of the original parent application to which the '846 Patent claims priority, the applicants stated: ‘The TA [transport address] is defined as the Care of Address which is an IP address associated with a mobile node while the subscriber is visiting a foreign link.’” Op. Br. at 40. Thus, intrinsic evidence supports CommWorks’ construction.

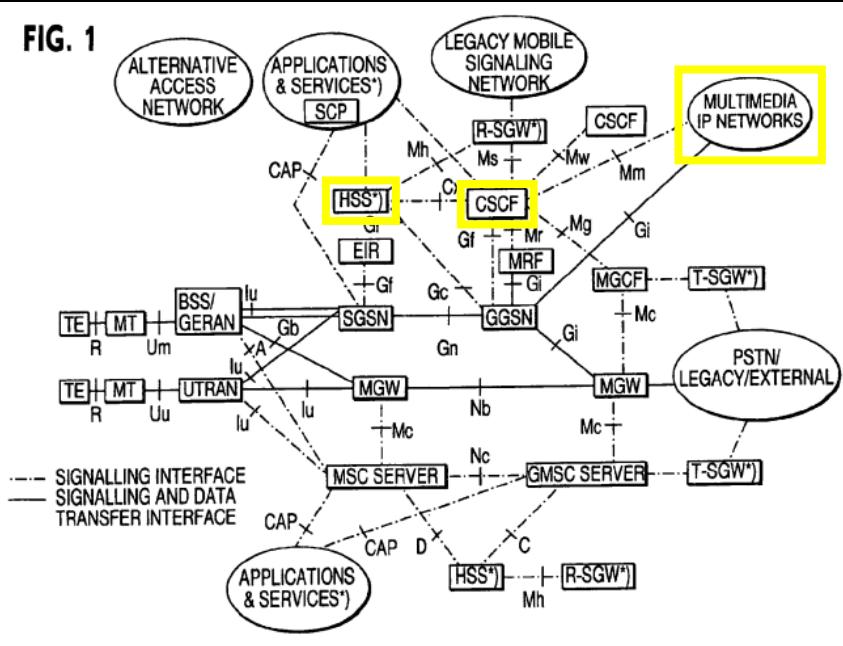
Comcast also misreads the specification when it argues that “the specification . . .

expressly states that the ‘TA’ (i.e. the ‘transport address’) ‘is not the static home address but rather is the Care-of-Address.’” Op. Br. at 40. In that section, the ’846 patent explains that the text cited by Comcast is “in accordance with the third option” (i.e., embodiment) and lists “assumptions” made for that embodiment. Thus, the quote pertaining to a TA in that scenario not being the static home address is more fairly directed to one embodiment, and not being definitional to the entire patent. Additionally, “not the static home address,” does not preclude the possibility of a static IP address on the foreign network. CommWorks’ construction, however, is taken verbatim from the specification and is further confirmed by the file history.

2. “home subscription server (HSS)” (**’846 pat., claim 2**)

CommWorks’ Construction	Comcast’s Construction
no construction required / plain and ordinary meaning <i>alternatively, if construed,</i> master user database that supports the IP Multimedia Subsystem (IMS) network entities that handle the calls/sessions	the master database for a given user containing subscription related information to support the network entities actually handling calls

The parties’ dispute two issues: (1) whether this term requires construction, and (2) if construed, whether this term can be stretched, as Comcast suggests, to cover non-“All-IP” mobile network technology. As an initial matter, the “home subscription server (HSS)” is specific to “all-IP” mobile networks. The ’846 patent begins by stating that “Technical Report TR 23.821 V1.0.1, published July 2000 . . . discloses the specifications of a 3G All-IP mobile network and this report is incorporated by reference herein in its entirety.” ’846 pat., col. 1:31-35. The patent further explains that “[u]nfortunately, the network disclosed in the Technical Report fails to include any protection of the TA of a 3G All-IP subscriber from loss.” *Id.*, col. 1:41-43. Moreover, “FIG. 1 illustrates the architecture of a 3G All-IP mobile network[:]”



Id., Fig. 1 (yellow boxes added), col. 2:33-34. This figure illustrates that the HSS is part of a system that also includes “Multimedia IP Networks.” As to the proper construction, “there is generally a ‘heavy presumption in favor of the ordinary meaning of claim language as understood by one of ordinary skill in the art,’ which can be overcome by the patentee’s lexicography only when the patentee ‘clearly set[s] forth an explicit definition for a claim term’.” *UCP Int'l Co. v. Balsam Brands, Inc.*, 787 F. App'x 691, 703 (Fed. Cir. 2019). Notably, while Comcast has provided two expert declarations in support of other claim terms, neither of Comcast’s experts has supported its construction.

If the Court chooses to construe this term, the Court should adopt CommWorks’ proposed construction because the intrinsic and extrinsic evidence supports the HSS being a “master user database that supports the IP Multimedia Subsystem (IMS) network entities that handle the calls/sessions.” Comcast flatly contradicts the specification by arguing that “‘IP Multimedia Subsystem (IMS)’ network entities … do[] not appear in the patent specification or the incorporated by reference 3GPP technical report.” Op. Br. at 41. Fig. 1, reproduced above,

expressly discloses as “MULTIMEDIA IP NETWORKS.” Further, in the 3GPP technical report incorporated by reference in the ’846 patent (*see ’846 pat.*, col. 1:31-35) equates the “multimedia IP Network” with the IP Multimedia Subsystem (IMS).⁴ For example, the referenced 3GPP technical report shows the “Gi” interface between “GGSN” and “Multimedia IP Network” is the same interface between “GGSN” and an “IM Subsystem [IMS]”. Ex. 12, 3G TR 23.821 V1.0.1 (2000-07), pp. 19, 23; *see also id.*, pp. 20, 24 (showing the “Mm” interface between “CSCF” and “Multimedia IP networks” / “IP MM [Multimedia] CN [Core Network] subsystem [IMS]”). Moreover, Comcast’s citation to the 3GPP report fails to mention the requirement of IP Multimedia functionality in the HSS:

The HSS consists of the following functionalities:

- User control functions required by the IM CN subsystem.
- The subset of the HLR functionality required by the PS-Domain.
- And the CS part of the HLR, if it is desired to enable subscriber access to the CS-Domain or to support roaming to legacy GSM/UMTS CS-Domain networks

Id., p. 15 (highlight added); *see also id.*, p. 8 (where “IM CN subsystem: (IP Multimedia CN [Core Network] subsystem),” also known as the IMS).

Moreover, the extrinsic evidence also requires IP Multimedia features of the HSS. Specifically, the HSS is the “master user database that supports the IP Multimedia Subsystem (IMS) network entities that handle the calls/sessions.” *See Ex. 13, Understanding the Home Subscriber Server (HSS) Sh interface.* Oracle, 2006 (CW_CC_00000069).

⁴ During the time of the invention, 3GPP, the standard setting organization responsible for mobile networks, was undergoing a transitional period of standardizing current 3rd generation (3G) networks with an eye towards the next generation of mobile networks, *e.g.*, what the patentee calls a “3G All-IP mobile network.” During this transitional period, the group of industry leaders and engineers making up 3GPP were grappling with standardizing the terms of the various entities and interfaces in a mobile network. References to “multimedia IP Network(s),” “IP [MM] [CN] subsystem,” and/or “IP Multimedia Subsystem (IMS)” are all references to the same entity. *See Ex. 12, 3G TR 23.821 V1.0.1 (2000-07) pp. 19,20, 23, 24.*

Accordingly, to the extent that construction is required, CommWorks's construction is consistent with both the intrinsic and extrinsic evidence.

3. “serving-call state control function (S-CSCF)” ('846 pat., claim 3)

CommWorks' Construction	Comcast's Construction
no construction required / plain and ordinary meaning <i>alternatively, if construed,</i> primary node in the IP Multimedia Subsystem (IMS) responsible for session control	the component in a mobile network switching system that connects calls originating from and received for a mobile device

As with the HSS term, the parties dispute (1) whether this term should be construed, and (2) if construed, whether this term can be stretched, as Comcast suggests, to cover non-“All-IP” mobile network technology. CommWorks submits that this term be given its plain and ordinary meaning. This would also be consistent with other cases construing phrases that include an “S-CSCF.” For example, in *Huawei Techs. Co. v. T-Mobile US, Inc.*, 2017 U.S. Dist. LEXIS 57991 (E.D. Tex. 2017), the parties agreed to construe “S-CSCF currently providing a service...” as “S-CSCF currently assigned to provide a service...”—leaving “S-CSCF” with its plain and ordinary meaning. The court adopted the parties’ construction without disturbing the meaning of “S-CSCF.” *Id.* In addition, as with the HSS, S-CSCF is another mobile network entity term for which a jury would benefit from expert explanation and insight, regardless of whether the term is construed.

If the Court construes this term, the S-CSCF is the primary node in the IP Multimedia Subsystem (IMS) responsible for session control. “The S-CSCF is the primary node in the IMS responsible for session control.” Ex. 14, *Serving – Call Session Control Function*, MPLICAL (CW_CC_00000068); *see also* Ex. 15, *An Introduction to LTE*. 2012, at 254 (CW_CC_00000063) (showing the “SCSCF” is an “IMS” entity). The S-CSCF “acts as a decision point ... to decide whether the user’s SIP messages will be forwarded to the application servers” to provide services

to subscribers. Ex. 16, *IMS VoLTE Architecture*, 3GLTEinfo (CW_CC_00000065). The Session Initiation Protocol (SIP) is the signaling protocol used for voice, video and messaging applications using Internet Protocol (IP) in lieu of circuit-switched protocols.

As with the HSS term, Comcast attempts to expand S-CSCF beyond “All-IP” networks, to include older generations of mobile networks that did not have an S-CSCF.

G. Terms of U.S. Patent No. RE42,883 (“883” patent)

The ’883 patent, entitled “Enhanced Phone-based Collaboration” discloses improvements to quickly and easily enhancing an ongoing phone call with a variety of interpersonal real-time two-way communications. *See Abstract.*

1. “telephone network” (’883 pat., claims 1, 6)

CommWorks’ Construction	Comcast’s Construction
no construction required / plain and ordinary meaning	“the Public Telephone Network or a private enterprise network of telephones”

A “telephone network” requires no construction. For such a common place term, Comcast’s proposed construction is not helpful to a jury. A jury will know the plain and ordinary meaning of a telephone network, and Comcast’s proposed construction only amounts to added confusion. Further, Comcast’s construction is unduly narrow as it restricts “telephone network” to a public switched telephone network (PSTN), which is commonly known to be a circuit-based network. The ’883 patent expressly notes that a telephone network can be circuit-switched or packet based. ’883 pat., col. 6:5-7 (A “Telephone Network … may be circuit switch based (e.g. AIN PSTN network) or packet based (e.g. IP network with SIP or H.248 based phones).”). Moreover, contrary to Comcast’s argument that the “telephone network” must be different from the “data network,” the ’883 patent expressly states that “in the case of packet-based telephony the Telephone Network and Data Network can be the same IP based network.” *Id.*, col. 6:29-31. Accordingly, Comcast’s arguments find no support in the specification and this term requires no

construction.

The Court should adopt the plain and ordinary meaning for this term.

2. “add[ing] the collaboration session to the [existing/chosen] telephone call” (’883 pat., claims 1, 6, 8)

CommWorks’ Construction	Comcast’s Construction
no construction required / plain and ordinary meaning	“establishing a separate collaboration session in addition to the [existing/chosen] telephone call”

CommWorks submits that the plain and ordinary meaning of this term is readily apparent and no construction is required. *See* ’883 pat., col. 1:51-53 (“communicating parties start with a simple phone call and then, as appropriate, add other forms of IRTC [(interpersonal real-time two-way communication)].”); *id.*, 4:32-34 (“The present invention … will enable telephone parties to easily and conveniently add other IRTC applications for collaboration”); *id.*, 4:55-57 (“The initiating subscriber clicks on a particular call on the list in order to add enhanced collaboration to that call.”); *id.*, col. 6:32-36 (“… real-time data collaboration, (e.g. video conferencing, instant messaging, PC-based application sharing, desktop display sharing, whiteboard sharing, networked gaming and co-browsing).”).

Comcast’s construction is unduly narrow, and its arguments are contradictory. First, the claim term itself requires “add[ing]” the collaboration session—not starting a “separate” session. Second, none of Comcast’s citations require a “separate collaboration session.” To the contrary—all of Comcast’s citations discuss adding a “collaboration session to the existing telephone call,” as opposed to “establishing a separate collaboration session.” Thus, Comcast’s construction not only attempts to narrow the claim term, but the narrowing is done by importing a limitation not found even in the specification of the ’883 patent. Accordingly, Comcast’s construction is not proper and this term requires no construction.

Dated: November 5, 2021

Respectfully submitted,

By: /s/ Dmitry Kheyfits

Dmitry Kheyfits
dkheyfits@kblit.com
Brandon G. Moore
bmoore@kblit.com
Kheyfits Belenky LLP
108 Wild Basin Road, Suite 250
Austin, TX 78746
Tel: 737-228-1838
Fax: 737-228-1843

Andrey Belenky
abelenky@kblit.com
Hanna G. Cohen
hgcohen@kblit.com
Kheyfits Belenky LLP
80 Broad Street, 5th Floor
New York, NY 10004
Tel: 212-203-5399
Fax: 212-203-6445

Stafford Davis
State Bar No. 24054605
sdavis@stafforddavisfirm.com
Catherine Bartles
State Bar No. 24104849
cbartles@stafforddavisfirm.com
The Stafford Davis Firm, PC
815 South Broadway Avenue
Tyler, Texas 75701
Tel: 903-593-7000
Fax: 903-705-7369

*Attorneys for Plaintiff CommWorks Solutions,
LLC*

CERTIFICATE OF SERVICE

I hereby certify that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document and all accompanying documents via the Court's CM/ECF system on November 5, 2021.

/s/ Dmitry Kheyfits
Dmitry Kheyfits